Dairy Intensification and Grassland Access for Livestock: A Comparative Study of India and Bangladesh

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Introduction

Dairying is the next-best alternative for rural livelihood after crop in South Asia, where more than fifty percent of population depends on it. The milk production is concentrated in the rain-fed and irrigated crop-livestock systems of India, which contributes more than 90 percent of milk production in South Asia. Despite this vast expansion of milk production in India–dairying is characterized by a predominance of small-scale dairy producers who cultivates or have no land and reliance only on indigenous breeds of cattle and buffaloes, where grazing plays an important role for feed. However, dependency on indigenous cattle and grazing changes based on farming and market intensification, and also agro-ecology. This paper would like study the level of access to grassland for livestock feed in different market intensification level.

Materials and Methods

We have selected 3 sites across 2 countries with response to diverse mixed farming systems including different crop-livestock systems in contrasting agro-ecologies and socio-economic settings in South Asia. As per intensity level, Karnal (IND-1) is considered as high intensity level (both agriculture and livestock) while Dinajpur (BD) considered as medium intensity and Udaipur (IND-2) falls under low intensity level. From each sites, 8 villages were selected randomly based on GPS method. Along this distribution, 20 farm households per village were surveyed, resulting 160 households in one site and total of 480 households. These 20 households included four wealth categories which were created for each village, according to cultivated land and livestock ownership, expressed in tropical units (TLU). A well-structure questionnaire was used to collect information on contribution of grazing, crop residue and other in total livestock feed, access to different grass land and access to services and market (inputs, output, technology and credit). We have divided the access to grass land for livestock feed into different source –communal land, grazing reserve, private and collection from road side.

Results and Discussion

The result indicated that farmers in high intensity site (Karnal) have negligible access to grass land, but farmers in medium and low intensity has better access to grassland. Among different source of access to grass land, grazing on communal land constitutes the major share of total grass land accessed by farmers and it is found to be higher in low intensity zone and it reduces when intensification increases. In low intensity zone, access to markets for inputs and outputs is limited and also support services do not reach to these communities and opportunities for irrigation are limited. This causes the high dependence on grassland. In medium intensity zone, milk yields is very low, the major source of feed is rice straw while contribution of grazing is less than low intensity zone. Mainly in the rainy season collected grasses and leaves provide alternative feeds. In high intensity zone, milk yield is comparatively high from other two sites. To get the high milk yield is being possible because of high use concentrate and green fodder for feed along with better management.

Conclusion

Our focused should be in low medium intensity zone that how to increase biomass production and for what purpose and how much. Though, these zones are dominated by small farmers, it calls for deeper understanding the system how to integrate the crop-livestock in efficient way that can improve their livelihood without compromising sustainability of the system.

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